

BEFORE THE  
POSTAL REGULATORY COMMISSION  
WASHINGTON, D.C. 20268-0001

FIRST-CLASS PACKAGE SERVICE (FCPS) SERVICE  
STANDARD CHANGES, 2021

Docket No. N2021-2

**DIRECT TESTIMONY OF MICHELLE KIM**  
**ON BEHALF OF THE**  
**UNITED STATES POSTAL SERVICE**  
**(USPS-T-2)**

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## **AUTOBIOGRAPHICAL SKETCH**

My name is Michelle Kim. I am the Director, Cost Systems and Analysis for the United States Postal Service, reporting to the Vice President, Pricing and Costing. I have held this position since May 2021. My office is responsible for the design, development, operation, and enhancement of the ongoing national statistical sampling systems for distributing costs to products, including the In-Office Cost System (IOCS), City Carrier Cost System (CCCS), Rural Carrier Cost System (RCCS), and Transportation Cost System (TRACS).

In my prior role as the Manager, Cost Studies and Support my department was responsible for developing and updating cost models and studies used to demonstrate compliance with regulatory requirements regarding cost coverage and workshare arrangements. This includes models filed in the Annual Compliance Report regarding mail processing, transportation, and delivery. I have been employed by the Postal Service since 2013.

I have spent all of my career in Regulatory Reporting and Cost Analysis functions at headquarters. I began my career as an analyst in the Statistical Programs department where I supported postal data collection activities and developed an understanding of field operations. I have served as the TRACS team lead, held a temporary assignment as the Program Manager, RPW Reporting, and have led costing efforts for domestic Negotiated Service Agreements. I have supported numerous efforts to improve costing methodologies through petitions to change analytical principals used in periodic reporting with the Commission on a variety of topics.

1           I graduated with distinction from the University of Virginia with a Bachelor  
2 of Arts degree in Mathematics and was awarded Phi Beta Kappa for scholarly  
3 attainment in the liberal arts and sciences. In 2018 I graduated with a Masters of  
4 Information and Data Science from the University of California, Berkeley.  
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**PURPOSE OF TESTIMONY**

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2       The purpose of my testimony is to describe the methodology that the  
3 Postal Service has used to estimate the expected cost savings resulting from the  
4 proposed changes in service standards. I will also present the overall estimated  
5 change in cost and the additional cost impact of some potential future savings  
6 opportunities.

1                                   **ASSOCIATED LIBRARY REFERENCES**

2                   I am sponsoring the following Library References, which are associated  
3 with this testimony:

4 USPS-LR-N2021-2-1       Calculating Transportation Cost Changes (Public  
5 Version)

6 USPS-LR-N2021-2-NP1   Calculating Transportation Cost Changes (Non-Public  
7 Version)

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1       **I.       ESTIMATED COST SAVINGS FROM SERVICE CHANGE**

2               **A.       Methodology for Estimating the Annual Cost Changes Caused**  
3               **by a Change in Service Standards**

4               The purpose of this section is to describe the methodology used to  
5 estimate the potential annual cost savings from the proposed change in First-  
6 Class Package Service (FCPS) service standards. Cost savings are expected in  
7 response to changes in the transportation network, described in witness  
8 Hagenstein's testimony (USPS-T-1). In particular, both the air and highway  
9 required capacity will be reduced overall. In the highway network, this initiative  
10 will cause an increase in required capacity on Inter-Area contracts, but a  
11 decrease in required capacity within Inter-Cluster and Inter-P&DC contracts.<sup>1</sup>  
12 These changes in network capacity will cause a resulting change in the costs  
13 incurred to operate those networks.

14              Fortunately, the relationship between capacity and cost has been studied  
15 many times in the past several decades, and models describing this relationship  
16 have been approved by the Commission for use in regulatory costing.<sup>2</sup> The

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<sup>1</sup> Inter-Area, Inter-Cluster, and Inter-P&DC are types of accounts within the Inter-SCF cost pool for highway transportation. These accounts are defined as follows:

Inter-Area accounts are used to record the expense for the transportation of mail between a postal facility (except a Network Distribution Center (NDC)) in one postal area and a postal facility (except a NDC) in a different area.

Inter-Cluster accounts are used to record the expense for the transportation of mail between a postal facility in one district and a postal facility in a different district, when both postal facilities are within the same postal area and neither are NDCs (not Inter-NDC).

Inter-P&DC accounts are used to record the expense for the transportation of mail between two postal processing and distribution plants (neither an NDC) within the service area of a postal district within a postal area.

<sup>2</sup> See, e.g., Order No. 2180, Order on Analytical Principles Used in Periodic Reporting (Proposals Three Through Eight), PRC Docket No. RM2014-6 (Sept. 10, 2014), at 15; Direct Testimony of Michael D. Bradley on Behalf of United States Postal Service (USPS-T-18), PRC Docket No.

1 models were litigated in public and transparent proceedings, during which  
2 interested parties were welcome to participate, question, and make suggestions  
3 regarding the appropriate methodology. This analysis will rely on those  
4 established models, which provide a sound economic basis for estimating the  
5 expected changes in cost.

6         Additionally, this cost savings analysis will hold constant the volume of  
7 mail being transported in order to avoid any confounding effects of introducing  
8 volume reductions in addition to operational changes. This aligns with how  
9 similar analysis has been conducted in past proceedings.<sup>3</sup> An assessment of the  
10 potential impact on volume is included in witness Foti's testimony (USPS-T-3).

11         Finally, cost savings will be calculated based on changes in capacity for  
12 both First-Class Mail (FCM) and FCPS combined. The resulting savings will be  
13 compared to the FCM-only savings calculated in Witness Whiteman's testimony  
14 in Docket No. N2021-1, USPS-T-2, to isolate the additional savings potential  
15 resulting from the proposed FCPS change being implemented in addition to the  
16 proposed FCM change.

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R2000-1 (Jan. 12, 2000), at 1-13 (recounting history of the methodology from before Docket No. R80-1 to Docket No. R97-1).

<sup>3</sup> See Direct Testimony of Michael D. Bradley on Behalf of the United States Postal Service (USPS-T-10), PRC Docket No. N2012-1 (Dec. 5, 2011), at 2.



1           **B.       Cost Changes Arising from the Change in Service Standards**

2                   **1.       Cost Changes Resulting from Changes in Air Capacity**

3           For air transportation, due to the nature of the contracts, the cost is  
4 generally 100 percent volume variable.<sup>4</sup> In other words, if the required capacity  
5 increases by 10 percent, the cost would also increase by 10 percent. The Postal  
6 Service projects a reduction of 61.2 percent of First-Class Mail (FCM) pounds  
7 flown and a corresponding percentage reduction in FCPS pounds flown.<sup>5</sup> These  
8 reductions will be spread across multiple carriers, including commercial air and  
9 network carriers. Mail flown on each carrier incurs a different cost per pound (or  
10 cost per cubic foot) flown. The calculation of the change in capacity per carrier is  
11 calculated in a three-step process.

12           First, the current pounds flown of FCM and FCPS on each carrier are  
13 identified. These data are available from the Transportation Cost System  
14 (TRACS). Second, the reduction in pounds of FCM and FCPS flown on each  
15 carrier is calculated by multiplying the current pounds flown by the percent  
16 reduction. Third, the reduction in total units (pounds or cubic feet) flown is  
17 compared to total units flown on the network (i.e., the total capacity) in order to  
18 calculate the percent reduction in network capacity overall for each carrier.  
19 Additional details regarding this calculation are provided in the preface to Library  
20 Reference USPS-LR-N2021-2-NP1.

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<sup>4</sup> Summary Description of USPS Development of Costs by Segments and Components, Fiscal Year 2019 (July 1, 2020), "CS14-19.docx", at 14-3.

<sup>5</sup> The projected percentage reductions in pounds flown (including an exact figure for the corresponding reduction in FCPS pounds) are obtained from USPS-LR-N2021-2 -NP2, sponsored by witness Hagenstein.

1           Having calculated the percent reduction in air capacity for each carrier,  
2     calculating the resulting change in cost is straightforward. As stated above, air  
3     transportation costs are, for the most part, fully volume variable.<sup>6</sup> This means that  
4     as capacity requirements change, costs change proportionally. Thus, for each  
5     carrier, the percent capacity reduction calculated above is multiplied by the total  
6     cost in order to calculate the cost savings that will result from this change in  
7     capacity.

8           Lastly, witness Hagenstein projects a range of possible percent capacity  
9     reductions in charters. This percent reduction is multiplied by the charter cost in  
10    order to calculate the expected savings from charters. Charters were used in FY  
11    2020 to mitigate the lack of commercial air capacity availability during the  
12    COVID-19 pandemic. However, as witness Hagenstein describes, given the  
13    continued high levels of network package volumes, even with commercial air at  
14    full capacity, absent the proposed changes in service standards, charters would  
15    continue to be required to handle this package volume.

16          A cost savings of \$311 million is expected as a result of the projected  
17    reduction in air capacity across all carriers. An additional \$14 to \$98 million is  
18    possible as a result of reducing reliance on higher-cost charters. Supporting  
19    workbooks containing the calculations described in this section are filed in Library

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<sup>6</sup> Summary Description of USPS Development of Costs by Segments and Components, Fiscal Year 2019 (July 1, 2020), "CS14-19.docx", at 14-3. The exception – payments to FedEx and UPS for failure to meet minimum volume commitments – is treated as an institutional cost and accounts for only a 0.4-percentage point diminution in what is otherwise a 100-percent volume-variability ratio. *Id.* at 14-2, 14-3. Moreover, there is sufficient lead time until implementation to adjust the network appropriately and meet new planned minimums.

1 Reference USPS-LR-N2021-2-NP1, Calculating Transportation Cost Changes  
2 (Non-Public Version).<sup>7</sup>

## 3 **2. Cost Changes Resulting from Changes in Highway** 4 **Capacity**

5 As FCM and FCPS shifts out of the air network and into the highway  
6 network, the highway network will experience an increase in required capacity to  
7 handle this additional volume. However, the change in service standards will also  
8 enable optimization of the network to transport the volumes more efficiently,  
9 which will offset this increase from handling the additional volume. Capacity on  
10 the highway network is generally measured in cubic foot-miles, and, unlike in the  
11 air network, when highway capacity changes, the associated costs change to a  
12 lesser degree.

13 This relationship between cost and capacity is called the cost-to-capacity  
14 variability, and it has been the subject of many proceedings before the  
15 Commission, most recently in Docket No. RM2014-6. In these proceedings, the  
16 Postal Service presented and the Commission approved econometric models to  
17 measure the cost-to-capacity variability. These models use data from the  
18 Transportation Contract Support System (TCSS) and consider route length,  
19 postal area, and the cost incurred for purchasing highway capacity.<sup>8</sup> The cost-to-  
20 capacity variabilities estimated by these models provide exactly the information

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<sup>7</sup> Corresponding public versions of the supporting workbooks are filed in Library Reference USPS-LR-N2021-2-1 with commercially sensitive data redacted.

<sup>8</sup> USPS-RM2014-6/1, Public Material Relating to Proposal Six (June 20, 2014), "Rpt.Updat.PHT.Cost.Cap.Variab.docx", at 12.

needed to assess the impact on costs from the changes in network capacity initiated by this service standard change.

The cost-to-capacity variability for long-haul highway transportation is estimated in these studies to be roughly 85 to 95 percent, depending on the exact contract type.<sup>9</sup> In other words, if highway capacity increases by 10 percent, the cost will only increase by 8.5 to 9.5 percent. This relationship can be described by the following equation:

$$\% \Delta Cost_i = \varepsilon_i * \% \Delta Capacity_i,$$

where  $\varepsilon$  is the cost-to-capacity variability. Therefore, the total cost change resulting from the proposed network change can be calculated as:

$$CostChange_i = \varepsilon_i * [\% \Delta CFM] * BaselineCost_i,$$

where  $i$  indicates the contract type, e.g., Inter-Area.

Capacity requirements will change for several contract types as a result of the proposed service standards. The methodology is the same for all contract types, as described above; however, for the purpose of simplicity, the following discussion will group the contract types based on whether they will experience a capacity increase or decrease.

The Inter-Cluster and Inter-P&DC contract types will experience a decrease in required capacity. The magnitude of the decrease was estimated by witness Hagenstein (USPS-T-1) and is included in the table below. The cost-to-capacity variabilities for each of these contract types was most recently

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<sup>9</sup> USPS-RM2014-6/1, Public Material Relating to Proposal Six (June 20, 2014), "Rpt.Updat.PHT.Cost.Cap.Variab.docx", at 28, 31 (Tables 7 & 10).

estimated in Docket No. RM2014-6, and those variabilities are reproduced in Table 1 below. Multiplying the variability by the capacity change by the baseline cost provides the projected cost savings.

**Table 1: Highway Cost Changes  
for Contract Types with Expected Capacity Decreases**

<b>Contract Type</b>	<b>Cost-to-Capacity Variability</b>	<b>Capacity Change</b>	<b>Baseline Cost</b>	<b>Projected Cost Savings</b>
Inter-Cluster	89.1%	-11.4%	\$249 million	\$25 million
Inter-P&DC	85.0%	-12.5%	\$174 million	\$19 million

The total expected savings from decreases in network capacity across these contract types is \$44 million.

These savings will be offset by increases in network capacity in the Inter-Area contracts. Witness Hagenstein projects a capacity increase of 2.1 percent in this contract type. The most recently estimated capacity variability for Inter-Area transportation is 89.9 percent. The expected cost increase is calculated in the same manner described above, and since the capacity change is positive, rather than negative, the result is an increase in cost rather than a cost savings.

**Table 2: Highway Cost Changes  
for Contract Types with Expected Capacity Increases**

<b>Contract Type</b>	<b>Cost-to-Capacity Variability</b>	<b>Capacity Change</b>	<b>Baseline Cost</b>	<b>Projected Cost Increase</b>
Inter-Area	89.9%	2.1%	\$1,091 million	\$21 million

In total, an increase in network capacity in the Inter-Area contracts will lead to a cost increase of \$21 million. Combining this increase with the decrease in the

Inter-Cluster and Inter-P&DC accounts leads to a net decrease of \$23 million in purchased highway transportation costs.

Finally, as described by witness Hagenstein, due to the proposed service standard change, there may also be some potential to streamline the NDC transportation network. Based on preliminary estimates, witness Hagenstein projects a 14 to 28 percent reduction in capacity on the Inter-NDC network and a 6 to 8 percent reduction in capacity on the Intra-NDC network. If these preliminary estimates prove valid once more robust modeling efforts are completed, this optimization of the NDC network could result in an additional \$62 to \$116 million in savings.

**Table 3: Range of Potential Highway Cost Savings for NDC Network**

Contract Type	Cost-to-Capacity Variability	Capacity Change	Baseline Cost	Potential Cost Savings
Lower Range				
Inter-NDC	94.7%	14%	\$367 million	\$49 million
Intra-NDC	94.9%	6%	\$241 million	\$14 million
Upper Range				
Inter-NDC	94.7%	28%	\$367 million	\$97 million
Intra-NDC	94.9%	8%	\$241 million	\$18 million

### **3. Net Impact on Purchased Transportation Cost**

In summary, the proposed change in service standards will lead to a decrease in air capacity requirements and highway capacity requirements. The resulting cost savings from the reduction in air capacity is \$311 million, while the cost savings resulting from the highway capacity changes is \$23 million. In

1 combination, these changes lead to an overall net expected annual savings of  
2 \$334 million in purchased transportation.

3 However, as mentioned above, the savings calculated in this analysis are  
4 the result of a combined model of both FCM and FCPS service standard  
5 changes being implemented together. In order to isolate the additional savings  
6 anticipated as a result of the proposed FCPS change, this number should be  
7 compared to the cost savings anticipated by the FCM-only service standard  
8 change. The FCM-only savings is presented in Docket No. N2021-1, USPS-T-2,  
9 and is calculated as \$280 million. Therefore, implementation of the FCPS service  
10 standard change in addition to the FCM service standard change would lead to  
11 an additional savings of \$55 million. However, as described in witness  
12 Hagenstein's testimony, it should be noted that the analysis presented in this  
13 testimony cannot be viewed in isolation from that proposed change. The savings  
14 presented here would not be applicable if FCPS service standards were to  
15 change while FCM service standards remained at current levels.

16 Finally, witness Hagenstein describes two additional potential areas of  
17 opportunity for cost savings: reducing the use of higher-cost charters and  
18 streamlining the NDC network. Although these opportunities have not been fully  
19 modeled yet, preliminary estimates suggest that they may be worth \$14 to \$98  
20 million and \$62 to \$116 million, respectively, in additional savings.

## 21 **II. NET FINANCIAL IMPACT OF INITIATIVE**

22 In conclusion, the additional cost savings expected from this initiative,  
23 beyond the savings calculated for the FCM initiative described in Docket No.  
24 N2021-1, total \$55 million annually. Witness Foti (USPS-T-3) estimates that the

1 initiative will not lead to any loss in volume, so there will be no contribution loss  
2 offsetting these operational savings. Therefore, the overall net impact resulting  
3 from this initiative is estimated to be \$55 million, with the potential for an  
4 additional \$77 to \$213 million from future opportunities in reducing charters and  
5 streamlining the NDC network.